



Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

Central Regional Office • 627 Main Street, Worcester MA 01608 • 508-792-7650

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October 23, 2014

Richard R. Leonard
Teknor Apex Thermoplastic
Elastomers
31 Fuller Street
Leominster, MA 01453

RE: Leominster
Transmittal No.: X254160-A1
Application No.: CE-14-022
Class: NM25
FMF No.: 307195
AIR QUALITY PLAN APPROVAL

Dear Mr. Leonard:

The Massachusetts Department of Environmental Protection ("MassDEP"), Bureau of Waste Prevention, has reviewed your Limited Plan Application ("Application") listed above. This Application concerns the proposed installation of a 92 mm process extrusion line and associated equipment at the Teknor Apex Thermoplastic Elastomers facility located at 33 Fuller Street in Leominster, Massachusetts ("Facility").

This Application was submitted in accordance with 310 CMR 7.02 Plan Approval and Emission Limitations as contained in 310 CMR 7.00 "Air Pollution Control" regulations adopted by MassDEP pursuant to the authority granted by Massachusetts General Laws, Chapter 111, Section 142 A-N, Chapter 21C, Section 4 and 6, and Chapter 21E, Section 6. MassDEP's review of your Application has been limited to air pollution control regulation compliance and does not relieve you of the obligation to comply with any other regulatory requirements.

MassDEP has determined that the Application is administratively and technically complete and that the Application is in conformance with the Air Pollution Control regulations and current air pollution control engineering practice, and hereby grants this **Plan Approval** for said Application, as submitted, subject to the conditions listed below.

Please review the entire Plan Approval, as it stipulates the conditions with which the Facility owner/operator ("Permittee") must comply in order for the Facility to be operated in compliance with this Plan Approval.

1. DESCRIPTION OF FACILITY AND APPLICATION

The Permittee, located at 33 Fuller Street, Leominster is an existing facility that manufactures pelletized thermoplastic elastomers on 3 extruder lines and associated equipment. The Permittee combines rubber, additives, and thermoplastic resin in a blending process. The material is then extruded, dried, and cooled. Mixing operations are controlled by dry filters.

The Permittee also operates research and development (“R&D”) equipment, quality control equipment, and a burn oven for cleaning extruder parts. All of this equipment is exempt from air permitting per MassDEP 310 CMR 7.02 (2)(b)7, *De minimis* Increase in Emissions. The Permittee operates three dust collectors that also do not require permitting: Main Dust Collector, 40 mm extrusion line rubber grinder dust collector, and the Ribbon Blender Dust Collector.

In 1993, MassDEP informed the Permittee that 310 CMR 7.02 Plan Approval was not required for its operations (including a 60 mm extruder) due to emissions being below one ton per year.

In 1995, the Permittee installed an additional 92 mm extruder, and was not required by MassDEP to obtain 310 CMR 7.02 Plan Approval.

In 2001, the Permittee conducted emission testing to quantify emissions of volatile organic compounds (“VOC”) and particulate matter (“PM”) from the extruders, which included the above mentioned 60 mm and 92 mm lines and a smaller 40 mm extrusion line. In 2002, the Permittee presented the results of the testing to MassDEP and applied for 310 CMR 7.02 Plan Approval under Transmittal #W029991. On July 23, 2003, MassDEP issued its Plan Approval, wherein it limited the three extruders to a total of 4.9 tons per year VOC and 2.0 tons per year PM.

On January 31, 2007, MassDEP issued Plan Approval Transmittal #W088012 to the Permittee. This Plan Approval increased the VOC to 7.6 tons per year, the PM to 3.3 tons per year, and added a hazardous air pollutant (“HAP”) limit of 1.0 ton per year.

On August 5, 2008, the Permittee requested a determination from MassDEP whether or not 310 CMR 7.02 Approval was required to install a new Torit Donaldson dust collector to serve the ingredient mixing and blending operations. On August 21, 2008, MassDEP emailed the Permittee that Plan Approval was not required for this new dust collector.

On September 15, 2008, the Permittee requested MassDEP to allow removal of the wet scrubber and Farr dry air filter that were installed on exhausts associated with the extrusion processes. On October 17, 2008, MassDEP emailed an agreement to this request, based on the following: The product formulations that emitted higher amounts had changed; visible emissions and odors were no longer observed from the uncontrolled stacks; and previous VOC emission calculations did not take credit for VOC removal in the scrubber.

On February 12, 2013, MassDEP received an application to replace the currently permitted 60 mm extrusion line (currently Emission Unit #2) with a new 92 mm extrusion line. The new 92 mm extruder will have the same capacity, 6,000 pounds per hour (lb/hr) as the currently permitted 92 mm extruder. The “new” line will enable the Permittee to increase its capacity and decrease its downtime. The Permittee currently runs two different colors on the 92 mm extrusion line, black and neutral. When switching from one color to the other, the Permittee has to thoroughly clean the extrusion line to eliminate cross contamination. The Permittee plans to run the neutral color and black color on separate lines as much as possible after the installation of the new 92 mm line.

In addition to the new 92 mm extruder, the Permittee will be installing a second rubber grinding machine and dust collector. Currently, bales of rubber for both the 92 mm and the 60 mm extrusion lines are conveyed into one grinder where talc is added. The exhaust air from the grinder exhausts to an AirMaster dust collector located adjacent to the grinder. The particulate removed from the air stream by the dust collector is recirculated back to the grinder. With the replacement of the 60 mm extrusion line with a new 92 mm extrusion line, an additional rubber grinding machine and dust collector will be installed. The new dust collector will be housed in a protective partial enclosure on the roof.

The three extruder lines emit the following air contaminants: particulate matter (“PM”), hazardous air pollutants (“HAP”), and volatile organic compounds (“VOC”). PM, including small amounts of raw materials that contain traces of HAP (hydrogen chloride, and trace amounts of formaldehyde, lead, and cadmium) is emitted from the five separate baghouses and also from the extruder vacuum system exhaust. VOC is emitted from the extruder vacuum system exhaust.

This Plan Approval also includes the renumbering of the emission units, and increasing the emission limits for PM and VOC. PM limit will be increased from 3.3 to 5.0 tons per year. The VOC limit for the total of emission units 1, 2 and 3 will be increased from 7.6 to 8.5 tons per year, the HAP limit will be increased from 1.0 to 1.5 tons per year, and a facility-wide VOC limit of 10.5 tons per year will be established.

MassDEP has determined that for this Plan Approval, Best Available Control Technology (“BACT”) consists of using 99.9% efficient dust collectors (baghouses) for PM, and Best Management Practices and raw material usage limits of VOC-emitting materials to minimize VOC emissions.

This Plan Approval Transmittal No. X254160-A1 replaces and supersedes the conditions of all previously issued MassDEP air pollution control Plan Approval letters.

2. **EMISSION UNIT (EU) IDENTIFICATION**

Each Emission Unit (EU) identified in Table 1 is subject to and regulated by this Plan Approval:

| Table 1 | | | |
|----------------|--|------------------------|--|
| EU# | Description | Design Capacity | Pollution Control Device (PCD) |
| 1 | New 92 mm extrusion line with associated rubber grinder | 6,000 Lbs/hr | Infra-Jet AJN 1/403 Dust Collector rated at 99.9% control efficiency |
| 2 | 40 mm extrusion line | 400 Lbs/hr | Dust Collector |
| 3 | Existing 92 mm extrusion line with associated rubber grinder | 6,000 Lbs/hr | Airmaster RJX/Donaldson Dust Collector rated at 99.9% control efficiency |

Table 1 Key:

EU# = Emission Unit Number
PCD = Pollution Control Device
Lbs/hr = pounds per hour
mm = millimeter

3. **APPLICABLE REQUIREMENTS**

A. **OPERATIONAL, PRODUCTION and EMISSION LIMITS**

The Permittee is subject to, and shall not exceed the Operational, Production, and Emission Limits as contained in Table 2:

| Table 2 | | | |
|--------------------------------|--|----------------------|---|
| EU# | Operational / Production Limit | Air Contaminant | Emission Limit |
| 1 | | PM | Rubber grinder baghouse exhaust: 0.003 grains PM/acf and 0.08 lbs/hr |
| 3 | | PM | Rubber grinder baghouse exhaust: 0.003 grains PM/acf and 0.08 lbs/hr |
| 1, 2, & 3 | EU 1 & 3: 12,000 lbs/hr and 6,500 TPM EU 2: 400 lbs/hr and 200 TPM EU 1, 2 & 3: 37,778 TPY | VOC (Note 1) | 1.5 TPM / 8.5 TPY |
| | | PM (Note 2) | 1.0 TPM / 5.0 TPY |
| | | HAP (total) (Note 3) | 0.3 TPM / 1.5 TPY |
| Facility Wide (Notes 4 & 5) | | VOC | 1.9 TPM/10.5 TPY |
| | | PM | 1.0 TPM/5.0 TPY |
| | | HAP | 0.3 TPM/1.5 TPY |
| | | Opacity | Opacity, exclusive of uncombined water, shall not exceed 5% at all times during all modes of operation, including startups and shutdowns. |

Table 2 Notes:

Note 1: The VOC emissions will be calculated by multiplying the tons of product extruded by the emission factor 0.45 pounds VOC per ton of product extruded.

Note 2: The PM emissions from EU 1, 2, and 3 is equal to the sum of PM emissions from rubber grinding and PM emissions from extruding. The PM emissions from rubber grinding will be calculated by multiplying the pounds of rubber processed by the emission factor 0.026 pounds PM per pound of rubber processed multiplied by (1-0.999). The PM emissions from extruding will be calculated by multiplying the tons of product extruded by the emission factor 0.25 pounds PM per ton of product.

Note 3: The HAP emissions will be calculated by first calculating the total HAP contained in raw materials, based on current supplier information. It will be conservatively assumed that the total HAP in raw materials is emitted.

Note 4: Facility-wide limits on VOC, PM and HAP include EU #1, 2, & 3 and also all equipment listed as insignificant.

Note 5: Based on the actual operating hours, the Permittee will calculate the pounds of material through each of the R&D extruders 1.5 inches or larger (based on maximum operation rates). The appropriate emission factor as a percentage of volatile organic compounds (depending on the type of polymer processed) will then be applied to the pounds through to calculate the actual emissions.

Table 2 Key:

EU# = Emission Unit Number

PM = Total Particulate Matter

acf = actual cubic feet

VOC = Volatile Organic Compounds

HAP (total) = total Hazardous Air Pollutants.
TPM = tons per month

Table 2 Key continued:

TPY = tons per consecutive 12-month period
lbs/hr = pounds per hour
% = percent

B. COMPLIANCE DEMONSTRATION

The Permittee is subject to, and shall comply with, the monitoring, testing, record keeping, and reporting requirements as contained in Tables 3, 4, and 5:

| Table 3 | |
|----------------|---|
| EU# | Monitoring and Testing Requirements |
| 1 & 3 | 1. The dust collectors serving EU #1 and EU #3 rubber grinders shall be stack tested every five years to verify the after control particulate emission rates meet the prescribed grain loading in Table 2. The first stack test shall be done within 180 days of the issuance of this Plan Approval. Stack tests shall meet the requirements of condition 8 below and shall test for filterable particulate only. |
| 1, 2, & 3 | 2. The Permittee shall monitor the monthly pounds of rubber consumed in order to calculate grinder PM emissions. |
| | 3. The Permittee shall monitor the monthly tons of product extruded in order to calculate extruder PM and VOC emissions. |
| | 4. The Permittee shall monitor the monthly pounds of HAP-containing raw material consumed in order to calculate total HAP emissions. |
| | 5. The Permittee shall monitor the pressure drop of the baghouses on a daily basis. |
| Facility-wide | 6. The Permittee shall do the following monitoring on insignificant activities in order to calculate VOC emissions: The Permittee shall install an hour meter on each of the R&D extruders 1.5 inches or larger, and shall track the actual operating hours of these extruders on a monthly basis. |
| | 7. The Permittee shall monitor all operations to ensure sufficient information is available to comply with 310 CMR 7.12 Source Registration. |
| | 8. If and when MassDEP requires it, the Permittee shall conduct emission testing in accordance with USEPA Reference Test Methods and Regulation 310 CMR 7.13 |

Table 3 Key:

EU# = Emission Unit Number
Lbs = Pounds
VOC = Volatile Organic Compounds
HAP = Hazardous Air Pollutants

PM = Particulate Matter

| Table 4 | |
|----------------|--|
| EU# | Record Keeping Requirements |
| 1, 2 & 3 | 1. The Permittee shall record the monthly pounds of rubber consumed in order to calculate grinder PM emissions. |
| | 2. The Permittee shall record the monthly tons of product extruded in order to calculate extruder PM and VOC emissions. |
| | 3. The Permittee shall record the monthly pounds of HAP-containing raw material consumed in order to calculate total HAP emissions. |
| Facility-wide | 4. The Permittee shall maintain adequate records on-site to demonstrate compliance with all operational, production, and emission limits contained in Table 2 above. Records shall include the records mentioned in items 1, 2, and 3 above, and also the hours of operation of the R&D extruders 1.5 inches or larger. Records shall also include the actual emissions of air contaminant(s) emitted for each calendar month and for each consecutive twelve-month period (current month plus prior eleven months). These records shall be compiled no later than the 15 th day following each month. An electronic version of the MassDEP approved record keeping form, in Microsoft Excel format, can be downloaded at http://www.mass.gov/dep/air/approvals/aqforms.htm#report . |
| | 5. The Permittee shall maintain records of monitoring and testing as required by Table 3. |
| | 6. The Permittee shall maintain a copy of this Plan Approval, underlying Application and the most up-to-date SOMP for the EU(s) and PCDs approved herein on-site. |
| | 7. The Permittee shall maintain a record of routine maintenance activities performed on the approved EU(s), PCD(s) and monitoring equipment. The records shall include, at a minimum, the type or a description of the maintenance performed and the date and time the work was completed. |
| | 8. The Permittee shall maintain a record of all malfunctions affecting air contaminant emission rates on the approved EU(s) and PCDs and monitoring equipment. At a minimum, the records shall include: date and time the malfunction occurred; description of the malfunction; corrective actions taken; the date and time corrective actions were initiated and completed; and the date and time emission rates and monitoring equipment returned to compliant operation. |
| | 9. The Permittee shall maintain records to ensure sufficient information is available to comply with 310 CMR 7.12 Source Registration. |
| | 10. The Permittee shall maintain records required by this Plan Approval on-site for a minimum of five (5) years. |
| | 11. The Permittee shall make records required by this Plan Approval available to MassDEP and USEPA personnel upon request. |

Table 4 Key:

EU# = Emission Unit Number

PCD = Pollution Control Device

SOMP = Standard Operating and Maintenance Procedure
USEPA = United States Environmental Protection Agency

Table 4 Key continued:

VOC = Volatile Organic Compounds
HAP = Hazardous Air Pollutants
PM = Particulate Matter

| Table 5 | |
|----------------|---|
| EU# | Reporting Requirements |
| 1 & 3 | 1. The Permittee shall submit to MassDEP for approval a stack emission pretest protocol at least 30 days prior to emission testing, for emission testing as defined in Table 3 Monitoring and Testing Requirements. |
| | 2. The Permittee shall submit to MassDEP a final stack emission test results report within 45 days after emission testing, for emission testing as defined in Table 3 Monitoring and Testing Requirements. |
| Facility-wide | 3. The Permittee shall submit to MassDEP all information required by this Plan Approval over the signature of a "Responsible Official" as defined in 310 CMR 7.00 and shall include the Certification statement as provided in 310 CMR 7.01(2)(c). |
| | 4. The Permittee shall notify the Central Regional Office of MassDEP, BWP Permit Chief by telephone: 508-767-2845 , email: CERO.Air@massmail.state.ma.us or fax : 508-792-7621, as soon as possible, but no later than one (1) business day after discovery of an exceedance(s) of Table 2 requirements. A written report shall be submitted to Permit Chief at MassDEP within three (3) business days thereafter and shall include: identification of exceedance(s), duration of exceedance(s), reason for the exceedance(s), corrective actions taken, and action plan to prevent future exceedance(s). |
| | 5. The Permittee shall report every three years to MassDEP, in accordance with 310 CMR 7.12, all information as required by the Source Registration/Emission Statement Form. The Permittee shall note therein any minor changes (under 310 CMR 7.02(2)(e), 7.03, 7.26, etc.), which did not require Plan Approval. |
| | 6. The Permittee shall provide a copy to MassDEP of any record required to be maintained by this Plan Approval within 30 days from MassDEP's request. |

Table 5 Key:

EU# = Emission Unit Number

4. SPECIAL TERMS AND CONDITIONS

The Permittee is subject to, and shall comply with, the following special terms and conditions:

- A. The Permittee is subject to and shall comply with the Special Terms and Conditions as contained in Table 6:

| Table 6 | |
|----------------|---|
| EU# | Special Terms and Conditions |
| 1 | 1. The Permittee shall install bags rated at 99.9% efficiency in the rubber grinder baghouse. |
| 3 | 2. The Permittee shall install bags rated at 99.9% efficiency in the rubber grinder baghouse. |
| Facility-wide | 3. All baghouses shall be operated at a pressure drop in accordance with the manufacturers' recommendations. |
| | 4. All baghouses shall be operated and maintained according to the manufacturers' recommendations. |
| | 5. The Permittee shall implement a good-housekeeping system for all solvent-containing materials, which shall include covering cleaning solvent containers when not in use, disposing of waste solvent in properly closed containers, and educating workers about the need to use cleaning solvents efficiently so as to minimize the generation of fugitive VOC emissions. |

Table 6 Key:

EU# = Emission Unit Number

PM = Particulate Matter

VOC = Volatile Organic Compounds

- B. The Permittee shall install and use an exhaust stack, as required in Table 7, on each of the Emission Units that is consistent with good air pollution control engineering practice and that discharges so as to not cause or contribute to a condition of air pollution. Each exhaust stack shall be configured to discharge the gases vertically and shall not be equipped with any part or device that restricts the vertical exhaust flow of the emitted gases, including but not limited to rain protection devices known as "shanty caps" and "egg beaters."
- C. The Permittee shall install and utilize exhaust stacks with the following parameters, as contained in Table 7, for the Emission Units that are regulated by this Plan Approval:

| Table 7 | | | | |
|------------------------|---|--|--|--|
| EU# | Stack Height Above Ground (feet) | Stack Inside Exit Dimensions (inches) | Stack Gas Exit Velocity Range (feet per second) | Stack Gas Exit Temperature Range (°F) |
| EU 1 Dust Collector | 31 | 12 | 53 | 75 |

| Table 7 | | | | |
|--|---|--|--|--|
| EU# | Stack Height Above Ground (feet) | Stack Inside Exit Dimensions (inches) | Stack Gas Exit Velocity Range (feet per second) | Stack Gas Exit Temperature Range (°F) |
| EU 3 Dust Collector | 34 | 16 | 60 | 75 |
| EU1,2, & 3 Extruder Vacuum Vents | 31 | 6 | 64 | 120 |

Table 7 Key:

EU# = Emission Unit Number

°F = Degree Fahrenheit

5. GENERAL CONDITIONS

The Permittee is subject to, and shall comply with, the following general conditions:

- A. Pursuant to 310 CMR 7.01, 7.02, 7.09 and 7.10, should any nuisance condition(s), including but not limited to smoke, dust, odor or noise, occur as the result of the operation of the Facility, then the Permittee shall immediately take appropriate steps including shutdown, if necessary, to abate said nuisance condition(s).
- B. If asbestos remediation/removal will occur as a result of the approved construction, reconstruction, or alteration of this Facility, the Permittee shall ensure that all removal/remediation of asbestos shall be done in accordance with 310 CMR 7.15 in its entirety and 310 CMR 4.00.
- C. If construction or demolition of an industrial, commercial or institutional building will occur as a result of the approved construction, reconstruction, or alteration of this Facility, the Permittee shall ensure that said construction or demolition shall be done in accordance with 310 CMR 7.09(2) and 310 CMR 4.00.
- D. Pursuant to 310 CMR 7.01(2)(b) and 7.02(7)(b), the Permittee shall allow MassDEP and / or USEPA personnel access to the Facility, buildings, and all pertinent records for the purpose of making inspections and surveys, collecting samples, obtaining data, and reviewing records.

- E. This Plan Approval does not negate the responsibility of the Permittee to comply with any other applicable Federal, State, or local regulations now or in the future.
- F. Should there be any differences between the Application and this Plan Approval, the Plan Approval shall govern.
- G. Pursuant to 310 CMR 7.02(3)(k), MassDEP may revoke this Plan Approval if the construction work is not commenced within two years from the date of issuance of this Plan Approval, or if the construction work is suspended for one year or more.
- H. This Plan Approval may be suspended, modified, or revoked by MassDEP if MassDEP determines that any condition or part of this Plan Approval is being violated.
- I. This Plan Approval may be modified or amended when in the opinion of MassDEP such is necessary or appropriate to clarify the Plan Approval conditions or after consideration of a written request by the Permittee to amend the Plan Approval conditions.
- J. The Permittee shall conduct emission testing, if requested by MassDEP, in accordance with USEPA Reference Test Methods and regulation 310 CMR 7.13. If required, a pretest protocol report shall be submitted to MassDEP at least 30 days prior to emission testing and the final test results report shall be submitted within 45 days after emission testing.
- K. Pursuant to 310 CMR 7.01(3) and 7.02(3)(f), the Permittee shall comply with all conditions contained in this Plan Approval. Should there be any differences between provisions contained in the General Conditions and provisions contained elsewhere in the Plan Approval, the latter shall govern.

6. MASSACHUSETTS ENVIRONMENTAL POLICY ACT

MassDEP has determined that the filing of an Environmental Notification Form (ENF) with the Secretary of Energy & Environmental Affairs, for air quality control purposes, was not required prior to this action by MassDEP. Notwithstanding this determination, the Massachusetts Environmental Policy Act (MEPA) and 301 CMR 11.00, Section 11.04, provide certain "Fail-Safe Provisions," which allow the Secretary to require the filing of an ENF and/or an Environmental Impact Report (EIR) at a later time.

7. APPEAL PROCESS

This Plan Approval is an action of MassDEP. If you are aggrieved by this action, you may request an adjudicatory hearing. A request for a hearing must be made in writing and postmarked within twenty-one (21) days of the date of issuance of this Plan Approval.

Under 310 CMR 1.01(6)(b), the request must state clearly and concisely the facts, which are the grounds for the request, and the relief sought. Additionally, the request must state why the Plan Approval is not consistent with applicable laws and regulations.

The hearing request along with a valid check payable to the Commonwealth of Massachusetts in the amount of one hundred dollars (\$100.00) must be mailed to:

Commonwealth of Massachusetts
Department of Environmental Protection
P.O. Box 4062
Boston, MA 02211

This request will be dismissed if the filing fee is not paid, unless the appellant is exempt or granted a waiver as described below. The filing fee is not required if the appellant is a city or town (or municipal agency), county, or district of the Commonwealth of Massachusetts, or a municipal housing authority.

MassDEP may waive the adjudicatory hearing-filing fee for a person who shows that paying the fee will create an undue financial hardship. A person seeking a waiver must file, together with the hearing request as provided above, an affidavit setting forth the facts believed to support the claim of undue financial hardship.

Enclosed is a stamped approved copy of the application submittal.

Should you have any questions concerning this Plan Approval, please contact Paul Dwiggins by telephone at (508)767-2760, or in writing at the letterhead address.

This final document copy is being provided to you electronically by the
Department of Environmental Protection. A signed copy of this document
is on file at the DEP office listed on the letterhead.

Roseanna E. Stanley
Acting Permit Chief
Bureau of Waste Prevention

Enclosure

ecc: Leominster Board of Health/Dept of Health
Leominster Fire Department
MassDEP/Boston - Yi Tian
Capaccio – Lynn Sheridan